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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/977,859	10/15/2001	Katsuyoshi Fujita	5000-4964	3822

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EXAMINER

WYSZOMIERSKI, GEORGE P

ART UNIT

PAPER NUMBER

1742

DATE MAILED: 02/05/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Applicant(s)	ISHIKURA ET AL.	
	Application No.	09/977,859	
	Examiner	George P Wyszomierski	Art Unit 1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 10 and 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-17, 19 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☒ All b) ☐ Some \* c) ☐ None of:  
 1. ☒ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>6</u> . | 6) <input type="checkbox"/> Other: .  |

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-9, 11-17, 19 and 20, drawn to a method, classified in class 75, subclass 352.
- II. Claims 10 and 18, drawn to a tank, classified in class 220, subclass 581.

2. The inventions are distinct, each from the other because:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by a materially different process, i.e. a tank can be constructed which includes a hydrogen storage alloy lining made by an atomizing process.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their different classification and recognized divergent subject matter, restriction for examination purposes as indicated is proper.

3. During a telephone conversation with Steven Meyer, attorney of record, on January 31, 2003 a provisional election was made with oral traverse to prosecute the invention of Group I, claims 1-9, 11-17, 19 and 20. Affirmation of this election must be made by applicant in replying to this Office action. Claims 10 and 18 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

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5. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "relatively high-pressure and low temperature" is indefinite in the absence of any indication of what baseline value the pressure and temperature are relative to. For purposes of examination, any reference to pressure and temperature in the prior art will be considered to fully meet the claim limitations as presently drafted.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-5, 11 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Fetcenko et al. (U.S. Patent 4,893,756).

Fetcenko discloses a process which includes introducing ingots of hydrogen storage alloy material into a reactor and comminuting this material into particles by introducing hydrogen gas into the reactor so that the hydrogen causes a volumetric expansion of the ingot until the ingot fractures into particles. The particles are then cooled, and utilized in a hydrogen storage electrochemical cell. See Fetcenko column 8, line 25 to column 9, line 45. Thus all aspects of the claimed invention are held to be fully met by Fetcenko et al.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 8, 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fetcenko et al.

With regard to claims 8 and 9, Fetcenko indicates the importance of avoiding exposing the comminuted hydrogen storage alloy material to oxidizing conditions (see Fetcenko column 6, lines 8-11) and utilizes an argon gas purge to minimize contaminants as the material is transferred out of the reactor (see Fetcenko column 12, lines 7-13). Fetcenko does not specify employing a flat lid on the top of the final apparatus in which the hydrogen storage material will be used. However, the use of electrochemical cells of any configuration, including those having flat lids, would fall within the purview of the Fetcenko reference.

With regard to claim 12, the actual alloy used by Fetcenko comprises titanium and vanadium (see Fetcenko column 9, line 56). While Fetcenko does not disclose the crystalline structure of the prior art material, such a structure would be understood by one of ordinary skill in the art to be largely dependent upon the alloy composition. Because this may be the same in either the prior art or the claimed invention, no patentable distinction is seen in this aspect of the invention.

Consequently, a prima facie case of obviousness is established between the Fetcenko et al. disclosure and the invention as presently claimed.

10. Claims 6, 7, 14-17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fetcenko et al., as above, alone or in view of Leland (U.S. Patent 4,925,486).

Fetcenko does not specify the use of a ball valve as required by the instant claims. However, this limitation is seen as largely describing an apparatus limitation upon the claimed process, and as such does not confer patentability upon an otherwise known process. Compare *In re Sweeney* (72 USPQ 501). As such, the claimed process is held to at best define an obvious variant of the known process as disclosed by Fetcenko et al. In any event, the Leland patent indicates the conventionality of employing a ball valve in a process which involves using hydrogen to comminute metallic alloys into particles; see Leland column 3, lines 52-54. Given this disclosure of Leland, the practice of the Fetcenko et al. process in an apparatus which includes a ball valve would have been considered an obvious expedient by one of ordinary skill in the art.

11. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fetcenko et al. in view of either Wootton et al. (U.S. patent 4,576,640) or Sandrock et al. (U.S. Patent 4,839,085).

Fetcenko does not specify the precise ranges of pressure and temperature as recited in the instant claims. Both Wootton and Sandrock disclose alloy cracking processes using hydrogen at a temperature and pressure within the limitations of the instant claims; see Wootton example 2 or Sandrock column 5, lines 4-9. Given these disclosures of Wootton or Sandrock, it would have been well within the level of one of ordinary skill in the art to practice the Fetcenko et al. process at the pressures and temperatures as presently claimed.

12. The remainder of the art cited on the enclosed PTO-892 and 1449 forms is of interest. This art is held to be no more relevant to the claimed invention than the art applied in the rejections, *supra*.

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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (703) 308-2531. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (703) 308-1146. The fax phone number for this Group is (703) 872-9310 for all correspondence except for After Final amendments in which case the Fax number is (703) 872-9311. The Right fax number for this examiner is (703) 872-9039. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

GEORGE WYSZOMIERSKI  
PRIMARY EXAMINER

GPW  
February 3, 2003